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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,777	10/17/2003	Philippe Barre	402842/WEINSTEIN	7736

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EXAMINER	
YAN, REN LUO	
ART UNIT	PAPER NUMBER
2854	

MAIL DATE	DELIVERY MODE
07/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/686,777	BARRE ET AL.	
	Examiner	Art Unit	
	Ren L. Yan	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6-25-2007 has been entered.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-13, 20, 22 and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bresson et al(5,352,507) in view of Busshoff et al(6,703,095) and Berna et al(5,347,927). The patent to Bresson et al teaches a seamless multilayered printing sleeve as claimed including a printing layer 6, a compressible layer 4 and a circumferential stiffening layer 5 disposed between the printing layer 6 and the compressible layer 4. The stiffening layer 5 functions as a reinforcing layer placed on the compressible layer and is made of fibrous polymer oriented circumferentially as shown in Fig. 11. Bresson et al teach that the reinforced layer 5 could have a thickness of 1 mm and the oriented fibers reinforce the elastomer layer 5 such that the modulus of elasticity in the circumferential direction is at 200 MPa or more. See the entire Bresson patent for details. However, Bresson et al does not teach the thickness of the reinforce layer 5 to be 0.5

mm or less and does not state to what extent the modulus of elasticity in the circumferential direction should go beyond the 200 MPa as stated.

The patent to Busshoff et al teach a thin-walled reinforced sleeve for a printing cylinder the conventionality of using a reinforced fibrous polymer layer 12 disposed on top of a compressible layer 34(Fig. 6) and the thickness of the reinforced layer 12 is about between 0.1 mm to 0.8 mm. See also in column 7, lines 14-45 and column 8, lines 46-55 in Busshoff et al for example. It would have been obvious to those having ordinary skill in the art to provide the printing sleeve of Bresson et al with a thin-walled reinforced polymer layer as taught by Busshoff et al in order to control the overall thickness of the printing sleeve and at the same time achieve the exceptionally high tensile strength in the circumferential direction.

The patent to Berna et al teaches in a similar multilayered printing sleeve the conventional use of a spirally-integrated reinforced layer 14 underneath the printing layer 12 that has a tensile modulus in the circumferential direction of 50-2000 MPa and the modulus of compression, in the radial direction is 5 to 50 MPa. Berna et al stated that the use of such reinforced compressible layer 14 with sufficient stiffness might result in that no further carrier or tube is needed for mounting the endless printing element 10 directly around a cylinder. See Figs. 1-4 and column 9, line 56 through column 10, line 24 in Berna et al for example. It would have been obvious to those having ordinary skill in the art to further modify the printing sleeve of Bresson et al by providing the fiber reinforced layer of Bresson et al, as modified by Busshoff et al with modulus of elasticity in the circumferential direction at 400 MPa or more and in the radial direction at 50 MPa for the advantage that no further carrier or tube is required for mounting the endless printing sleeve directly around the printing cylinder so as to cut

manufacturing cost. With respect to the newly added "wherein" clause at the end of claim 1, even though Bresson et al teach the use of a stiffening layer 5 disposed in between the printing layer 6 and the compressible layer 4 the same way as presently claimed, but are silent on whether the stiffening layer is capable of undergoing a deviation of 100 to 500 microns without fracture. However, MPEP 2112.01 states that "*When the structure recited in the reference is substantially identical to that of the claims, claimed properties or functions are presume to be inherent*" and "*Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical process, a prima facie case of either anticipation or obviousness has been established*". Accordingly, since the stiffening layer of Bresson et al is substantially identical structurally to the stiffening layer as recited in the claim, it is presumed to possess the same properties of being capable of undergoing a deviation of 100 to 500 microns without fracture as recited.

Regarding claims 2 and 20, the broadly recited removal facilitating layer reads on layers 9, 10, or the polymeric release sheet described in column 12, lines 14-26 in Bresson et al. Regarding claim 7, see column 6, lines 7-59 in Bresson et al. Regarding claim 8, Bresson teaches in column 8, lines 9-24 that the reinforcing layers 7 and 7a could have a thickness of about 0.1 to 0.5mm. Regarding claim 22, Bresson teaches in column 9, lines 38-48 that the removal facilitating layer is made of a heat-shrinkable material. With respect to claim 6, Bresson may not state the wt% of the reinforcing layer and the reinforcing elements. However, from Fig. 11 of Bresson, it would appear that the 20-80wt% of the reinforcing layer and elements are most likely met by the teaching of Bresson. Nevertheless, in order for the reinforcing layer to be effective in preventing bulges and undulations in compressible foam layers during

operation, one of ordinary skill in the art would be able to determine the proper wt% of the reinforcing layer and the reinforcing elements based upon routine experimentations in order to achieve this objective. Such a determination by those skilled in the art through routine experimentations would have been most obvious. Regarding claim 11, Bresson did not give the elongation at breakage tolerance percentage for the reinforcing layer. It is noted that the elongation at breakage for the reinforcing layer to be at greater than 1.2% is fairly small. The reinforcing layer of Bresson would most likely possess this property since the printing sleeve of Bresson would undergo an expansion in a circumferential direction upon being mounted onto or demounted from a printing cylinder. However, one of ordinary skill in the art would be able to determine the elongation at breakage tolerance of the reinforcing layer through routine experimentations in order for the printing sleeve to work properly as intended and such a determination would have been obvious. With respect to claim 13, the circumferential stiffening layer 5 of Bresson is attached to the compressible layer 4 at an approximate angle of 45 degrees as shown in Fig. 11 and has a modulus of elasticity in the circumferential direction, as modified by Busshoff, in the range of 50-2000MPa, it should be clear to those skilled in the art that the modulus of elasticity of the circumferential stiffening layer 5 in the X-component, (along the axis of the cylinder 1) would have to be greater than 100 MPa as recited. With respect to claims 25 and 26, Bresson teaches all that is claimed except for the thickness range, the surface Ra factor and the friction of coefficient of the removal facilitating layer. It should be apparent to those having ordinary skill in the art that the thickness range, the surface Ra factor and the friction of coefficient of the removal facilitating layer of the printing sleeve are selected for the removal facilitating layer to achieve its optimal performance during the printing sleeve mounting

and demounting operations. It would have been obvious to those skilled in the art to determine those variables through routine experimentations. With respect to claim 27, Bresson et al do not specify the thickness of the printing layer 6. Berna et al teach in column 3, last paragraph that the printing layer 12 of the endless sleeve has a radial thickness of 0.05 to 0.6 mm. In view of the teaching of Berna et al, it would have been obvious to those having ordinary skill in the art to provide the printing sleeve of Bresson et al with a printing layer having a thickness of less than 0.5 mm since it is a well known thickness for a printing layer to ensure proper printing operations.

Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bresson et al in view of Busshoff et al and Berna et al as applied to claims 1 and 2 above, and further in view of Castelli et al(5,754,931). Bresson et al, as modified by Busshoff et al and Berna et al teach all that is claimed except for the use of microspheres in the compressible layer. Castelli et al teach in a printing blanket the conventionality of using microspheres that undergo a thermal expansion to form a compressible layer in the printing blanket. See column 3, line 64 through column 4, line 51 in Castelli et al for example. In view of the teaching of Castelli et al, it would have been obvious to those having ordinary skill in the art to provide the printing sleeve of Bresson et al, as modified by Busshoff et al and Berna et al with a compressible layer made of microspheres in order to achieve increased compressibility of the compressible layer.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bresson et al in view of Busshoff et al and Berna et al as applied to claims 1 and 2 above, and further in view of Kia et al(6,699,419). Bresson et al, as modified by Busshoff et al and Berna et al teach all that is claimed except for the use of a gel coat to produce the removal facilitating layer. Kia et al teach

in a molding process the conventional use of a mold release agent on the surface of the mold and a gel coat layer is applied onto the dried surface of the mold so as to facilitate the removal of the molded object. See column 4, lines 27-42 in Kia et al for example. It would have been obvious to those having ordinary skill in the art to provide the printing sleeve of Bresson et al, as modified by Busshoff et al and Berna et al with the release agent and the gel coat layer as taught by Kia et al so as to facilitate the mounting and demounting of the printing sleeve with respect to the printing cylinder.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bresson et al in view of Busshoff et al and Berna et al as applied to claims 1 and 2 above, and further in view of Asai et al(2002/0182328). Bresson et al, as modified by Busshoff et al and Berna et al teach all that is claimed except for the use of an electrostatically applied layer of powder to produce the removal facilitating layer. Asai et al teach in a process of making a sleeve the conventional use of fluoropolymer powders electrostatically coated and baked to form a smooth release resin layer for the sleeve. See [0041] in Asai et al for example. It would have been obvious to one of ordinary skill in the art to provide the printing sleeve of Bresson et al, as modified by Busshoff et al and Berna et al with the electrostatically coated powder layer to function as the removal facilitating layer so as to facilitate the mounting and demounting of the printing sleeve.

Applicant's arguments filed 6-25-2007 have been fully considered but they are not persuasive. Applicant argued that since the stiffening layer 5 of Bresson et al does not substantially compress when subjected to the customary pressures between nipped cylinders, it is thus inflexible and not capable of undergoing a deviation of 100 to 500 microns without fracture, as claimed in claim 1. This argument is most illogical because the meaning of the words

"compressible" and the meaning of the word "inflexible" do not allow any body to draw such an irrational conclusion that when something is not compressible, then it must be inflexible. The word "compressible" is defined as "able to be made more compact by pressure", while the word "inflexible" is defined as "able to bend without breaking". Webster's New World Dictionary, Third College Edition. From the definitions of these two words, there is no such correlation between the word "compressible" and the word "inflexible" as applicant attempted to draw and therefore, this argument is not persuasive. The Examiner also wishes to point out that the stiffening layer 5 of Bresson et al is flexible so it is able to bend and be wound onto the compressible layer 4 as shown in Fig. 11.

Since claims 2-28 remain the same as previously filed on 10-18-2006 and 2-22-2006, all the issues regarding the rejections of these claims have been adequately addressed in the previous Office actions, no further statement is deemed necessary. Applicant's attention is directed to the Final rejection dated 1-3-2007.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ren L. Yan whose telephone number is 571-272-2173. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ren L Yan
Primary Examiner
Art Unit 2854

Ren Yan
July 20, 2007